

Ser. No.: 10/518,670  
Amdt. dated July 1, 2008  
Reply to Office Action of April 1, 2008

PATENT  
PU020289  
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first and second sets of M parity encoded output digital data streams based upon detecting a parity error in said selected one of said first and second sets of M parity encoded output digital data streams.

**19. (Currently Amended)** For a broadcast router having an input card, a first router matrix card and a second router matrix card, said input card transmitting a set of N input digital data streams to said first router matrix card and said second router matrix card, said first router matrix card outputting a first set of M output digital data streams and said second router matrix outputting a second, replicated, set of M output digital data streams, a method of selecting one of said first and second sets of M output digital data streams as the output of said broadcast router, wherein M and N are integers and M is different from N, the method comprising:

propagating said first set of M output digital data streams through at least one components of said first router matrix card;

each one of said at least one component of said first router matrix card adding at least one bit of information to said first set of M output digital data streams propagating therethrough;

propagating said second set of M output digital data streams through at least one component of said second router matrix card;

each one of said at least one component of said second router matrix card adding at least one bit of information to said second set of M output digital data streams propagating therethrough; and

selecting one of said first and second sets of M output digital data streams as the output of said broadcast router based upon a comparison of said at least one bit of information added to said first set of M output digital data streams to said at least one bit of information added to said second set of M output digital data streams.

**20. (New)** A fault-tolerant router, comprising:

a first router matrix card, said first router matrix card receiving N parity encoded input digital audio data streams and generating, from said N parity encoded input digital audio data streams, a first set of M parity encoded output digital audio streams;

a second router matrix card, said second router matrix card receiving said N parity encoded input digital audio data streams and generating, from said N parity

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encoded input digital audio data streams, a second set of M parity encoded digital audio streams; and

an output card coupled to said first router matrix card and said second router matrix card, said output card receiving said first set of M parity encoded output digital audio streams from said first router matrix card and said second set of said M parity encoded output digital audio streams from said second router matrix card, providing, as an output therefrom, a selected one of said first and second sets of M parity encoded output digital audio streams, and switching from said selected one of said first and second sets of M parity encoded output digital audio data streams to an unselected one of said first and second sets of M parity encoded output digital audio data streams based upon detecting a parity error in said selected one of said first and second sets of M parity encoded output digital audio data streams,

wherein said output card further comprises:

a switching circuit coupled to receive said first set of M parity encoded output digital audio data streams from said first router matrix card and said second set of M parity encoded output digital audio data streams from said second router matrix card, said switching circuit switching from said selected one of said first and second sets of M parity encoded output digital audio data streams to said unselected one of said first and second sets of M parity encoded output digital audio data streams in response to assertion of a switching signal;

a first parity check circuit coupled to receive said first set of M parity encoded output digital audio data streams from said first router matrix card;

a second parity check circuit coupled to receive said second set of M parity encoded output digital audio data streams from said second router matrix card; and

a logic circuit coupled to receive a first parity error signal from said first parity check circuit and a second parity check error signal from said second parity check circuit, said logic circuit determining, based upon said first parity error signal received from said first parity check circuit and said second parity error signal received from said second parity check circuit, whether to assert said switching signal, and

wherein said logic circuit asserts said switching signal based upon detection of said parity error in said selected one of said first and second sets of M parity encoded output digital audio data streams regardless of whether a parity error is

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present in said unselected one of said first and second sets of M parity encoded output digital audio data streams.

**21. (New)** A fault-tolerant router, comprising:

a first router matrix card, said first router matrix card receiving N parity encoded input digital audio data streams and generating, from said N parity encoded input digital audio data streams, a first set of M parity encoded output digital audio streams;

a second router matrix card, said second router matrix card receiving said N parity encoded input digital audio data streams and generating, from said N parity encoded input digital audio data streams, a second set of M parity encoded digital audio streams; and

an output card coupled to said first router matrix card and said second router matrix card, said output card receiving said first set of M parity encoded output digital audio streams from said first router matrix card and said second set of said M parity encoded output digital audio streams from said second router matrix card, providing, as an output therefrom, a selected one of said first and second sets of M parity encoded output digital audio streams, and switching from said selected one of said first and second sets of M parity encoded output digital audio data streams to an unselected one of said first and second sets of M parity encoded output digital audio data streams based upon detecting a parity error in said selected one of said first and second sets of M parity encoded output digital audio data streams,

wherein said output card further comprises:

a switching circuit coupled to receive said first set of M parity encoded output digital audio data streams from said first router matrix card and said second set of M parity encoded output digital audio data streams from said second router matrix card, said switching circuit switching from said selected one of said first and second sets of M parity encoded output digital audio data streams to said unselected one of said first and second sets of M parity encoded output digital audio data streams in response to assertion of a switching signal;

a first parity check circuit coupled to receive said first set of M parity encoded output digital audio data streams from said first router matrix card;

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a second parity check circuit coupled to receive said second set of M parity encoded output digital audio data streams from said second router matrix card; and

a logic circuit coupled to receive a first parity error signal from said first parity check circuit and a second parity check error signal from said second parity check circuit, said logic circuit determining, based upon said first parity error signal received from said first parity check circuit and said second parity error signal received from said second parity check circuit, whether to assert said switching signal, and

wherein:

said switching circuit switches back from said unselected one of said first and second sets of M parity encoded output digital audio data streams to said selected one of said first and second sets of M parity encoded output digital audio data streams based upon assertion of said switching signal, and

said logic circuit asserts said switching signal based upon detection of a parity error in said unselected one of said first and second sets of M parity encoded output digital audio data streams regardless of whether a parity error is present in said selected one of said first and second sets of M parity encoded output digital audio data streams.